WHAT IS CLAIMED IS:

1. A method for controlling data rate of data packets transmitted between a plurality of transmission stations, said method comprising:

transferring information between first and second subsets of said plurality of transmission stations by sending first and second units of source packets from said first subset to said second subset and receiving an acknowledgment packet, from said second subset, by said first subset, with said acknowledgment packet being received by said first subset before transmission of said second unit of source packets, with said data rate being a function of a time interval between transmission of said first and second units of source packets by said first subset; and

varying said data rate as a function of said time interval.

2. The method according to claim 1 wherein varying said data rate includes generating substitute acknowledgment packets during said time interval in response to a quantity of source packets associated with one of said first and second units of source packets, said substitute acknowledgment packets being generated independent of one of the variables selected from the group consisting of time, range of data being acknowledged, window size being advertised to said second subset and number of acknowledgments, from said groupings of packets from said first subset.

3. The method according to claim 1 wherein said first and second subsets transfer information over a data path and varying said data rate is implemented at a third subset of transmission stations, disposed in said data path, between said first subset and said second subset.

4. The method according to claim 1 wherein varying said data rate includes receiving, by said first subset, a substitute acknowledgment containing data, with said first subset increasing a quantity of source packets included in said first unit in response to said data.

5. The method according to claim 1 wherein varying said data rate includes delaying, by said second subset, transmission of said acknowledgment packet to said

first subset, defining a transmission delay, with said transmission delay being a function of a number of source packets received by said second subset.

6. The method according to claim 1 wherein said first and second subsets each includes a single transmission station.

7. The method according to claim 1 wherein said first subset includes a single transmission station and said second subset includes a plurality of transmission stations.

8. The method according to claim 1 wherein said second subset includes a single transmission station and said first subset includes a plurality of transmission stations.

9. The method according to claim 1 wherein said first unit is transmitted through a transmission window having a predetermined capacity, with said acknowledgment packet being transmitted after said second subset receives all of said source packets associated therewith, said acknowledgment packet specifying a sequence value of data being acknowledged that establishes a trailing edge boundary on a window of data transmission, and further including selecting substitute sequence values to establish a limit on explicit rate of emission of packets between said first and second subsets, and generating a plurality of substitute acknowledgment packets, each having one of said substitute sequence values, in place of said acknowledgment packet, said substitute acknowledgment packets specifying an amount of data acknowledged to indirectly control size of said window of data transmission.

10. The method according to claim 1 wherein said first unit includes a single source packet.

11. The method according to claim 1 wherein said second unit includes a single source packet.

12. An apparatus for controlling data rate of data packets transmitted between a plurality of transmission stations, comprising:

means for transferring information between first and second subsets of said plurality of transmission stations by sending first and second units of source packets from said first subset to said second subset and receiving an acknowledgment packet, from said second subset, by said first subset, with said acknowledgment packet being received by said

first subset before transmission of said second unit of source packets, with said data rate being a function of a time interval between transmission of said first and second units of source packets by said first subset; and

means, in data communication with said means for transferring, for varying said data rate as a function of said time interval.

13. The apparatus according to claim 12 wherein said means for varying said data rate includes means for generating a substitute acknowledgment during said time interval in response to a quantity of source packets associated one of said first and second units of source packets, said substitute acknowledgment being generated independent of one of the variables selected from the group consisting of time, range of data being acknowledged, window size being advertised to said second subset and number of acknowledgments, from said groupings of packets from said first subset.

14. The apparatus according to claim 12 wherein said first and second subsets transfer information over a data path and means for varying said data rate includes a third subset of transmission stations, disposed in said data path, between said first subset and said second subset that includes means for generating a substitute acknowledgment, in response to receipt of an acknowledgment packet, containing data, with said first subset increasing a quantity of source packets included in said first unit in response to said data.

15. The apparatus according to claim 12 wherein means for varying said data rate includes means for delaying transmission of said acknowledgment packet, by said second subset, to said first subset, defining a transmission delay, with said transmission delay being a function of a number of source packets received by said second subset.

16. The apparatus according to claim 12 wherein said first and second subsets each includes a single transmission station.

17. The apparatus according to claim 12 wherein said first subset each includes a single transmission station and said second subset includes a plurality of transmission stations.

18. The apparatus according to claim 12 wherein said second subset each includes a single transmission station and said first subset includes a plurality of transmission stations.

19. The apparatus according to claim 12 wherein said means for transferring includes means for transmitting said first unit through a transmission window having a predetermined capacity, with said acknowledgment packet being transmitted after said second subset receives all of said source packets associated therewith, said acknowledgment packet specifying a sequence value of data being acknowledged that establishes a trailing edge boundary on a window of data transmission, and further including means for substituting sequence values to establish a limit on explicit rate of emission of packets from between said first and second subsets, and means for generating a plurality of substitute acknowledgments, each having one of said substitute sequence values, in place of said acknowledgment packet, with said substitute acknowledgment packets specifying an amount of data acknowledged to indirectly control size of said window of data transmission.